REMARKS

Claims 1-13 are now pending in the application. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the remarks contained herein.

REJECTIONS UNDER 35 U.S.C. § 103

Claims 1-6 and 8-10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lo et al. (U.S. Pat. No.6,282,096) in view of Chu et al. (U.S. Pat. No. 6,424,533). Claims 7 and 11 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lo et al. in view of Chu et al., as applied to Claim 1, and further in view of Ohbuchi et al. (U.S. Pat. No. 5,719,746). Claim 12 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Lo et al. in view of Chu et al., as applied to Claim 8, and further in view of Patel (U.S. Pat. No. 5,587,882). Claim 13 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Lo et al. in view of Chu et al., as applied to Claim 8, and further in view of Yasukawa et al. (U.S. Pat. No. 5,793,106). These rejections are respectfully traversed.

The foundation for each of these rejections (i.e., Lo et al. in view of Chu et al.) does not disclose or suggest Applicants' invention as recited in independent Claims 1 and 8. For example, independent Claim 1 recites "an isolation material located . . . such that a vibration or shock to the base component must travel through the isolation material prior to reaching the circuit component." Similarly, independent Claim 8 recites "an isolation material located . . . such that a vibration or shock to the circuit board must travel through the isolation material at the attachment point prior to reaching the integrated circuit." In contrast, each of the embodiments of Lo et al. disclose that the heat sink directly contacts against the substrate. See, for example,

col. 3 at lines 13-23 which states that the second part of the heat sink 6 extends to the connecting surface 71 of the substrate 7. Thus, the heat sink contacts directly against the substrate surface 71 as seen in each of the Figures 5-7. Therefore, any shock or vibration to the substrate 7 of Lo et al. is capable of traveling directly to the semiconductor 1 of Lo et al. without traveling through the isolation material, regardless of what material is located within the cavity between these two components. Thus, even if one skilled in the art were motivated to use foam insulation of Chu et al. in the cavities of Lo et al., the resulting combination would still not result in Applicants' invention as defined by independent Claims 1 and 8, since a shock or vibration to the substrate 7 of Lo et al. can pass to the semiconductor 1 without traveling through the isolation material.

Furthermore, the foam insulation of Chu et al. is disclosed for use in connection with a thermal electric cooling unit for a thermal spreader plate and is in no way associated with a support frame for a circuit component (independent Claim 1) or an integrated package (Claim 8). In fact, this thermal spreader plate is supported by such a component which is exactly the opposite of that claimed. Moreover, there is no suggestion that the insulating foam of Chu et al. is elastic as required of the cavity material of Lo et al. Thus, there seems to be no reason why one skilled in the art would modify Lo et al. in view of Chu et al. as suggested by this rejection.

None of the additionally cited references in any of these rejections disclose or suggest the claimed isolation material located such that a vibration or shock "must travel through the isolation material" as discussed above. For example, the lid 108 (Figure 6) of Ohbuchi et al. directly contacts against a support member 106 at least at edge 133 of protrusion 134. Thus, any shock or vibration to one would not be

forced to travel through the adhesive agent (even if it were modified to be an isolation material). In addition, Patel does not disclose or suggest a support member for the circuit component as similarly discussed above with respect to Chu et al.

Lastly, a shock or vibration to the heat sink 9 of Yasukawa et al. (which the rejection refers to as the circuit board) is transmitted to the circuit component 2 without requiring it to pass through the resin filler 16 (even assuming the resin filler was an isolation material). Specifically, a shock or vibration to the heat sink 9 of Yasukawa et al. can pass through screw 10, to resin case 7 to plate 1 at 7a (all of which are held against each other by spring 12) and to circuit component 7. Therefore, none of the additionally cited references in any of these rejections disclose or suggest the claimed isolation material located such that a vibration or shock "must travel through the isolation material" as discussed above with regard to each of independent Claims 1 and 8.

Each of the remaining claims depend from either independent Claim 1 or independent Claim 8. Specifically, each of Claims 2-7 depend, either directly or indirectly, from independent Claim 1. In addition, each of Claims 9-13 depend, either directly or indirectly, from independent Claim 8. Thus, each of the remaining claims is likewise patentable for at least the reasons discussed above.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for

allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

Dated: March 5, 2004

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